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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,290	03/15/2002	Kazuyuki Sato	Q68961	1127

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EXAMINER

ZACHARIA, RAMSEY E

ART UNIT PAPER NUMBER

1773

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,290

Applicant(s)

SATO ET AL.

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

2. Claims 2-4 are objected to because of the following informality. Each claim recites a polymer (or copolymer) that comprises one or more monomers. However, polymers and copolymers do not comprise monomers themselves but rather the reaction product of monomers. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2, 2/5, 2/6, 7, 2/8, 2/9, 2/10, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 2 is rendered indefinite because it is not clear from the wording of the claim whether polymer (B) is intended to comprise: monomers (B-i), (B-ii) and one of (B-ii) or (B-iv); or either monomer (B-iv) or monomers (B-i), (B-ii) and (B-iii).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 4, 5, 6, and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by Sato et al. (WO 00/52251).

Note: applicants cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Sato et al. teach a surface treatment agent having a Knoop hardness of at least 5 the comprises a metal alkoxide, a fluorine containing compound having a functional group reactive with the metal alkoxide and a reactive group containing polymer. The metal of the metal alkoxide may be silicon and the metal alkoxide has 2-5 alkoxide groups. The functional group of the fluorine containing compound may be a carbonyl, a hydroxy, an epoxy, a phosphoric, an alkoxy silane, a halogenated silyl, an isocyanate, or a blocked isocyanate. In the embodiments of the Examples, polymer further comprises methyl methacrylate units.

Regarding the values for the soil release and residual rates in claim 1, these properties are taken to be material properties. Since the composition of Sato et al. reads on the composition of

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the instant claims, it is taken to also have the same material properties, including soil release and residual rates.

8. Claims 1, 3-6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Allewaert et al. (EP 438,886).

Allewaert et al. teach a composition used to treat fibrous substrates (page 2, lines 1-3). The composition comprises a fluorine-type agent and a metallic ester or alcoholate (page 2, lines 41-45). The metallic ester or alcoholate may be mono-sec-butoxyaluminum diisopropylate, i.e. a metal alkoxide (page 4, lines 1-10). In the embodiment of Example 1, the fluorine-type agent is a copolymer of a perfluoroalkylmethacrylate monomer and an alkylmethacrylate monomer and the metallic agent is zirconium butyrate (page 6, lines 5-10). The perfluoroalkylmethacrylate monomer contains a sulfonate group and reads on element (C-ii) of claim 3 and element (E) of claim 4. The alkylmethacrylate monomer reads on element (C-i) of claim 3 and (D-i) of claim 4.

Regarding the values for the soil release rate, residual rate, and Knoop hardness in claim 1, these properties are taken to be material properties. Since the composition of Allewaert et al. reads on the composition of the instant claims, it is taken to also have the same material properties, including soil release rate, residual rate, and Knoop hardness.

9. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsuda et al. (U.S. Patent 5,712,335).

Tsuda et al. teach composition comprising a fluorine containing polymer for use as a paint having excellent long-term adhesion, weatherability, and soil resistance (column 1, lines 5-

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32). The fluorine containing polymer comprises a copolymer of a fluorine containing seed polymer reacted with other monomers (column 1, lines 49-59). The composition further comprises an organosilicon compound (column 1, lines 35-40). In the embodiment of Example 2 (see Tables 1-3), the fluorine containing polymer comprises a copolymer comprising the reaction product of VdF, TFE, CTFE, MMA, BA, POEMA, and SiMA. VdF, TFE, and CTFE are all fluorine containing monomers having a carbon-carbon double bond. MMA, BA, and POEMA are all fluorine-free (meth)acrylic acid derivatives. SiMA is a monomer having a carbon-carbon double bond and a metal alkoxide group. The composition of Example 2 further comprises a silane condensation product having 5 methoxy groups, i.e. a metal alkoxide.

Regarding the values for the soil release rate, residual rate, and Knoop hardness in claim 1, these properties are taken to be material properties. Since the composition of Tsuda et al. reads on the composition of the instant claims, it is taken to also have the same material properties, including soil release rate, residual rate, and Knoop hardness.

Regarding claim 8, the limitations of this claim are taken to be met because the claim does not require polymer (B) to comprises monomer (B-iii). Rather, the claim merely further limits monomer (B-iii) while still permitting the polymer to comprises (B-iv) instead of (B-iii).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allewaert et al. (EP 438,886).

Allewaert et al. teach all the limitations of claim 9, as outlined above, except for the use of a monomer of the formula $\text{CF}_3(\text{CF}_2)_n\text{SO}_2\text{N}(\text{C}_3\text{H}_7)(\text{CH}_2)_2\text{OCOCH}=\text{CH}_2$ where n is 0-10.

However, Allewaert et al. do teach the use of a perfluoroalkylmethacrylate monomer of the formula $\text{C}_8\text{F}_{17}\text{SO}_2\text{N}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{O}_2\text{CC}(\text{CH}_3)=\text{CH}_2$ (page 6, lines 5-6). This reads on the monomer of instant claim 9 with n=7 except that the monomer is a methacrylate instead of an acrylate.

One of ordinary skill in the art would be motivated to use the acrylate corresponding to the disclosed methacrylate because they have very close structural similarities and are known in the art to have similar properties and utilities. See MPEP § 2144.09.

Therefore, the invention of claim 9 would have been obvious to one of ordinary skill in the art at the time the invention was made.

12. Claims 1-3, 5-8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai et al. (U.S. Patent 4,230,758) in view of Tsuda et al. (U.S. Patent 5,712,335).

Nagai et al. teach a coated structure comprising an aluminum substrate coated with a fluorine resin having a thickness of about 5-100 μm and a surface roughness of 5-60 μm (column 3, lines 4-11).

Nagai et al. do not teach the specifics of the fluorine resin coating. However, Nagai et al. do teach that any commercially available dispersion of a fluorine resin may be used (column 4, lines 35-36).

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Tsuda et al. teach composition comprising a dispersion of a fluorine containing polymer for use as a paint having excellent long-term adhesion, weatherability, and soil resistance (column 1, lines 5-32). The fluorine containing polymer comprises a copolymer of a fluorine containing seed polymer reacted with other monomers (column 1, lines 49-59). The composition further comprises an organosilicon compound (column 1, lines 35-40). In the embodiment of Example 2 (see Tables 1-3), the fluorine containing polymer comprises a copolymer comprising the reaction product of VdF, TFE, CTFE, MMA, BA, POEMA, and SiMA. VdF, TFE, and CTFE are all fluorine containing monomers having a carbon-carbon double bond. MMA, BA, and POEMA are all fluorine-free (meth)acrylic acid derivatives. SiMA is a monomer having a carbon-carbon double bond and a metal alkoxide group. The composition of Example 2 further comprises a silane condensation product having 5 methoxy groups, i.e. a metal alkoxide. The composition is used to coat substrates such as aluminum (column 13, lines 20-24).

Regarding the values for the soil release rate, residual rate, and Knoop hardness in claim 1, these properties are taken to be material properties. Since the composition of Tsuda et al. reads on the composition of the instant claims, it is taken to also have the same material properties, including soil release rate, residual rate, and Knoop hardness.

Regarding claim 8, the limitations of this claim are taken to be met because the claim does not require polymer (B) to comprises monomer (B-iii). Rather, the claim merely further limits monomer (B-iii) while still permitting the polymer to comprises (B-iv) instead of (B-iii).

One of ordinary skill in the art would be motivated to use the coating composition of Tsuda et al. as the fluorine resin coating of Nagai et al. because it has excellent adhesion and film forming properties in addition to weatherability and soil resistance.

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Therefore, the inventions of claims 1-3, 5-8, 10, and 11 would have been obvious to one of ordinary skill in the art at the time the inventions were made.

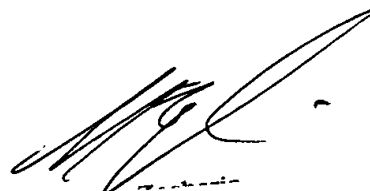
Conclusion

13. EP 1,167,616 A1 is cited because it is an English language document in the same patent family as WO 00/52251.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (703) 305-0503. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Ramsey Zacharia
Primary Examiner
Tech Center 1700